

Amendments to the Specification:

Please replace the paragraph at page 1, line 34 – page 2, line 17, with the following amended text:

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In many oil bearing formations, the oil is very thick having a consistency similar to that of molasses. Oil of this type cannot effectively be pumped to the surface without first heating the oil to reduce its viscosity to a point where the oil is in a flowable state. It has long been standard practice in the oil industry to heat such thick oil by means of steam injection. In a steam injection oil well, perforations, for the injection of steam into the oil are created at predetermined intervals along that portion of the well casing that passes through the oil bearing formation. For example, if the last two hundred feet of an 1800 foot wellbore pass through an oil pool, four perforations will typically be made at 50 foot intervals along the casing. Typically, the perforations are about one quarter of an inch in diameter and are formed by "shaped" explosive charges which are lowered to the desired depths in the well. The shaped charges are capable of penetrating both the inner steel well casing and the outer concrete casing.

Please replace the two paragraphs at page 6, line 13 – page 7, line 30, with the following amended text:

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Referring now to FIGS. 2 and 3, the plunger assembly 12 and the barrel 14 are shown in more detail. The plunger assembly includes a plunger 20, a pull-tube 22, and a hydraulic fitting 24. The plunger is preferably cylindrical in configuration and may have a bore 21 or may be solid. The plunger is sized to be slidably received within a first bore

34 of the barrel 14. Connected to the plunger is the pull-tube having upper and lower ends 25 and 23 respectively. The pull-tube is a hollow tube having a bore 31 through which pressurized fluid may pass. At its lower end, the pull-tube includes a plurality of holes 28 through which the pressurized fluid may exit. Also formed in the lower end of the pull-tube is a keyway or hole 32 for receipt of the shear pin 18. The pull-tube is sized to be slidably received within a second bore 36 of the barrel. The lower end of the pull-tube is attached to the plunger substantially ~~long~~ along a common longitudinal axis. The lower end may be attached to the plunger by any known method including welding or threading the lower end to a top surface 26 of the plunger. It is important to note that the pull-tube is not in fluid communication with the interior bore 21 of the plunger, when the plunger is so equipped. The upper end of the pull-tube is connected to a hydraulic fitting 24, and the bore 31 of the pull-tube is in fluid communication with a bore 30 of the hydraulic fitting. The upper end of the pull tube may be connected to the hydraulic fitting by any suitable means including welding or threading. The pull-tube and the hydraulic fitting may also be formed integrally, i.e., they may be integrally machined from a single piece of metal bar or tube stock. It is also possible, and may in some situations be desirable to integrally form the pull-tube with the plunger.

With particular reference to FIG. 3, the plunger barrel 14 is an elongated hollow cylindrical member having upper and lower ends, 42 and 44 respectively, and the longitudinal first bore 34. The upper end of barrel is closed out by a top plate or barrel plug 40, which includes the second bore 36 for slidable receipt of the pull-tube 22. The barrel ~~also plug~~ also includes a hole 38 for receipt of the shear pin 18. The lower end of the barrel is open to allow the plunger 20 and the pull-tube to be inserted into the barrel and is of sufficient length to house

the metal patch 16. Preferably, the barrel is constructed of steel and the first bore 34 is hard chrome plated. The hard chrome plating both reduces friction within the barrel and resists corrosion. Generally, the components of the delivery tool should be constructed of steel or other materials capable of withstanding the environmental conditions typically found in a deep oil well. The borehole environment includes pressures in the range of about 100-1000 psi and temperatures of about 200-500°F. Some boreholes also contain corrosive gasses with hydrogen sulfide and carbon dioxide being the most common. Borehole conditions tend to vary from oil field to oil field, however, these environments are well understood by those skilled in the art and materials suitable for use in such environments are also well known.

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Please replace the paragraph at page 11, line 32 – page 12, line 20, with the following amended text:

Deployment is accomplished by supplying the high pressure fluid (liquid or gas) to the hydraulic fitting 24. The fluid traverses the bore 31 of the pull-tube 22 and exits the tube at the plurality of holes 28 at the lower end of the tube 23. The pressurized fluid fills the volume 60 defined by the top plate 40 of the barrel 14 and the top surface 26 of the plunger 20. As pressure builds up within the volume 60, the barrel is forced upwardly against the stationary plunger until the coiled metal patch 16 is free of the barrel. Upon deployment from the barrel the patch unwinds or uncoils within the borehole and seals the perforation in the casing wall. Since the length of the patch (about six feet in the exemplary embodiment) is substantially greater than the size of a typical perforation (about one quarter inch), and because the patch is formed from spring-steel which forces the patch against the wall of the well casing, an effective seal against the perforation is

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achieved. Due to the comparatively thin wall thickness of the patch
(preferably on the order of about .008 inches for a 3.5 inch wellbore)
only a minimal reduction in diameter of the well casing occurs.
Therefore, most downhole tools may still be used in the patched well
and a subsequent patch may be deployed farther down the well if
desired.
